November 9, 2001

Mr. Dwayne Burke
Indianapolis Power and Light Co.
1230 W. Morris Street
Indianapolis, Indiana 46217

Re: Harding Street Station
Minor Permit Modification No: 097-114666-00033
Source No.: 097-00033
Part 70 Permit No.: T097-6566-00033

Dear Mr. Burke:

On August 17, 1999, IPL Harding Street Station (previously Elmer W. Stout Generating Station) was issued the Significant Source Modification for the new Gas Turbine GT6 construction and operation.

The permitted Gas Turbine GT6, Stack GT-6, Engine Model 7121 EA, rated at 95.7 MW, distillate oil No.2 and/or natural gas-fired, NOx emissions was to be controlled by Quiet Combustor technology with water injection. The permitted turbine has not been constructed yet.

On June 25, 2001, the source submitted a Minor Permit Modification application for replacement of the permitted turbine GT6 with the new General Electric Gas Turbine Model number PG7241, burning only Natural Gas, rated at 152.64 MW, with a design heat input capacity rated at 1,660 MMBTU per hour, Stack ID GT-6. NOx emissions will be controlled by Dry low NOx burners.

OES approves the Minor Permit Modification 097-14666-00072 that supersedes and replaces the Significant Source Modification 097-10952-00033 and serves as the first time construction and operation permit for the new Gas Turbine GT6.

The following changes were made in the Significant Source Modification 097-10952-00033:

(a) Source name change from Elmer W. Stout Generating Station to Harding Street Station.

(b) All references to the Gas Turbine GT6 burning Fuel Oil were deleted.

(c) The fuel consumption limit was replaced by requirement of installation of Continuous Emissions Monitoring system (CEM) to demonstrate compliance with the PSD limit of 40 tons per year of NOx emissions (NOx - restraining pollutant).

(d) To reflect recent name changes, the IDEM Office of Air Management (OAM) and Indianapolis ERMD names were changed, respectedly, to Office of Air Quality (OAQ) and Office of Environmental Services (OES).

(e) Requirement to install a continuous monitoring system for fuel consumption and Nitrogen

(Continued on Page 2)

Oxide content in the fuel was deleted, as well as water-to-fuel ratio (as irrelevant for the new

turbine).

This Minor Permit Modification will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-12.5(D).

This permitting approval is effective immediately.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions please call Mr. Boris Gorlin at (317) 327-2280.

Sincerely,

Original Signed by Vaneeta M. Kumar
Vaneeta M. Kumar
Administrator, OES

Attachments

cc: File
Compliance - Matt Mosier
IDEM - Mindy Hahn

SIGNIFICANT SOURCE MODIFICATION
AIR QUALITY MANAGEMENT SECTION

Indianapolis Office of Environmental Services
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097

Indianapolis Power and Light Company
Harding Street Station
3700 South Harding Street
Indianapolis, Indiana 46217

is hereby authorized to construct

One (1) General Electric Gas Turbine Model number PG7241, identified as Emission Unit ID GT6, burning only Natural Gas, rated at 152.64 MW, with a design heat input capacity rated at 1,660 MMBTU per hour, Stack ID GT-6. NOx emissions will be controlled by Dry low NOx burners.

The proposed Gas Turbine will be operated as a simple cycle machine.

This Significant Source Modification is issued to the above mentioned company (herein known as the Permittee) under the provisions of IAPCB Regulation 2, 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Significant Source Modification No.: SMT 097-10952-00033	
Issued by: Robert F. Holm, Ph.D., Administrator ERMD	Issuance Date: August 17, 1999

Minor Permit Modification 097-14666-00033	
Issued by: Original Signed by Vaneeta M. Kumar Vaneeta M. Kumar, Administrator Office of Environmental Services	Issuance Date:

Construction Conditions

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Environmental Services (OES), Air Quality Management Section.

2. This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of Chapter 5 of the Code of Indianapolis and Marion County and the regulations promulgated thereunder, Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. Pursuant to IAPCB Regulation 2 (Permits) and IC 13-15-5-3, this permit becomes effective upon its issuance.

4. Pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-1-9(b), the Administrator may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. Notwithstanding Construction Condition No. 6, all requirements and conditions of this permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. This document shall also become a first-time operation permit pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

   (a) The attached affidavit of construction shall be submitted to the Office of Environmental Services (OES), Air Quality Management Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or delivered to OES.

   (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

   (c) Permittee shall receive an Operation Permit Validation Letter from the Office of Environmental Services (OES) and attach it to this document.

   (d) The Permittee shall pay annual fees to IDEM, OAQ, and OES, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

   Failure to pay may result in administrative enforcement action, or revocation of this permit.

   (e). The Permittee has submitted their Part 70 permit application (T097-6566-00033) on

September 13, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

This Minor Permit Modification supersedes the Significant Source Modification 097-10952-00033 issued on August 17, 1999.

Stack Height

7. The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

NSPS Reporting Requirement

8. Pursuant to the New Source Performance Standards (NSPS), Part 60, Subpart GG, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

a) Commencement of construction date (no later than 30 days after such date);

b) Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

c) Actual start-up date (within 15 days after such date); and

d) Date of performance testing (at least 30 days prior to such date), when required by a condition elsewhere in this permit.

Reports are to be sent to:

Indiana Department of Environmental Management
Compliance Data Section,
Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

Office of Environmental Services
Air Quality Management Section,
Compliance Data Group
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097

The application and enforcement of these standards have been delegated to the OES. The requirements of 40 CFR Part 60 are also federally enforceable.

9. Acid Rain Program

Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall apply for the Phase II Acid Rain Permit in accordance with 40 CFR 72 and 40 CFR 75 through 40 CFR 78 prior to the proposed equipment operation start up, and shall comply with the provisions of their Phase II Acid Rain Permit and any other applicable requirements contained in 40 CFR 72 and 40 CFR 75 through 40 CFR 78.

To the extent that any requirements of 40 CFR 72 and 40 CFR 78 are inconsistent with the requirements of this Permit, 40 CFR 72 and 40 CFR 78 shall take precedence and shall govern the issuance, denial, revision, reopening, renewal and appeal of the Phase II Acid Rain Permit.

10. When the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

1 The data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in IAPCB Regulation 2 (Permits) and 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Environmental Services (OES), Air Quality Management Section.

2. The Permittee shall comply with the provisions of Chapter 511 of the Code of Indianapolis and Marion County and the regulations promulgated thereunder, Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. Pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), IPL shall prepare and maintain a preventive maintenance plan, including the following information:

(a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.

(b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.

(c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to the IDEM OAQ and Indianapolis Office of Environmental Services (OES) upon request and shall be subject to review and approval.

Transfer of Permit

4. Pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-1-6 (Transfer of Permits):

(a) In the event that ownership of this Gas Turbine is changed, the Permittee shall notify the Office of Environmental Services, Air Quality Management Section and the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.

(b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.

(c) The OES and OAQ shall reserve the right to issue a new permit.

Permit Revocation

5. Pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-1-9(a) (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) For any cause which establishes in the judgment of OES and IDEM, the fact that continuance of this permit is not consistent with purposes of IAPCB Regulation 2 (Permits) and 326 IAC 2-1 (Permit Review Rules).

(e) Noncompliance with the orders issued pursuant to IAPCB Regulation 1-5 (Emergency Reduction Plans) and 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

Availability of Permit

6. Pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the OES, IDEM, or other public official having jurisdiction.

Malfunction Condition

7. Pursuant to IAPCB Regulation 1-6-2 (Malfunctions and scheduled maintenance) and 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of five (5) years and shall be made available to the Office of Environmental Services (OES), upon request.

(b) When a malfunction of any facility or emission control equipment occurs with excess emissions which lasts more than one (1) hour, said condition shall be reported to OES, using the Malfunction Report Forms(2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of IAPCB Regulation 1-6 and 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in IAPCB Regulation 1-6-2(a)(1) through (6) and 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [IAPCB Regulation 1-2-39 and 326 IAC 1-2-39]

40 CFR 60, Subpart GG (Stationary Gas Turbines):

8. The Gas Turbine GT6 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.330, (Subpart GG)), since the heat input capacity is greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.

(a) Pursuant to 326 IAC 12-1 and 40 CFR 60, Subpart GG (Stationary Gas Turbines), the Permittee shall:

(1) limit nitrogen oxides emissions, as required by 40 CFR 60.332, to:

$$STD = 0.0075 \frac{(14.4)}{Y} + F,$$

where STD = allowable $_{NOX}$ emissions (percent by volume at 15 percent oxygen on a dry basis).

Y = manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as

measured at actual peck load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NOx emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of 40 CFR 60.332.

(2) limit sulfur dioxide emissions, as required by 40 CFR 60.333, to 0.015 percent by volume at 15 percent oxygen on a dry basis, or use natural gas fuel with a sulfur content less than or equal to 0.8 percent by weight;

(b) Pursuant to 40 CFR Part 60 Subpart GG and pursuant to the custom schedule for natural gas firing allowed by 40 CFR 60.334(b) and approved by IDEM on December 28, 1994 for Gas Turbines GT4 and GT5 at this facility, the Permittee shall monitor the sulfur content of the fuel being fired in Emission Unit ID GT6, according to 40 CFR 60.335. The frequency of determination of these values shall be as follows:

(1) The sulfur content of natural gas shall be obtained and analyzed within thirty (30) days of each one (1) billion standard cubic feet landmark consumption period of natural gas firing is completed. Reporting of the results, calculated as a percent sulfur by weight, shall be done quarterly for the quarter in which the analysis was performed. Sampling and analysis of the natural gas shall be performed according to 40 CFR 60.335(d).

(2) The sulfur content information obtained from this monitoring shall be used to document compliance with limits stated in conditions 8(a)(1) and 8(a)(2).

(c) The source shall report periods of excess emissions, as required by 40 CFR 60.334(c).

PSD Minor Source Limit

9. The following limitations will ensure this source modification stays below significant modification levels of criteria pollutants, therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, shall not apply.

(a) The criteria pollutants emissions shall be limited to less than PSD significant levels as follows:

(1) PM/PM10 emissions (filterable and condensable combined) - to less than 15 tons per year,

(2) Nitrogen Oxides (NOx) - to less than 40 tons per year;

(3) Sulfur Dioxide (SO2) - to less than 40 tons per year;

(4) Carbon Monoxide (CO) - to less than 100 tons per year,

(5) Lead - to less than 0.6 tons per year.

(b) To demonstrate compliance with the NOx emissions limit, a continuous emissions monitoring system shall be installed in accordance with 326 IAC 3-5.

10. Performance Testing

(a) Pursuant to 40 CFR, Part 60.8 (Performance Tests), 326 IAC 2-1.1-5, and 326 IAC 3-5, the

Permittee shall conduct a performance test, not later than one-hundred and eighty (180) days after a facility start-up or monitor installation, on the turbine's exhaust stack GT-6 in order to certify the continuous emission monitoring system for NOx.

(b) Within sixty (60) days after achieving maximum production rate, but no later than one-hundred and eighty (180) days after initial start-up, the Permittee shall conduct NOx and SO_2 stack test on the turbine's exhaust stack GT-6 utilizing methods as approved by the Administrator. This test shall be performed in accordance with 40 CFR Part 60.335, in order to comply with condition 9(a).

(c) A test protocol shall be submitted to the OAQ, Compliance Data Section, and OES, Air Quality Management Section, Compliance Data Group, 35 days in advance of the test.

(d) The OAQ, Compliance Data Section, and OES, Compliance Data Group, shall be notified of the actual test date at least two (2) weeks prior to the date.

(e) All tests reports must be received by OAQ, Compliance Data Section, and OES, Compliance Data Group, within 45 days of completion of the testing.

(f) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAQ and OES that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

(g) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days (from the initial test). Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

(h) Pursuant to 40 CFR Part 60, Subpart GG (New Source Performance Standards), the initial compliance stack testing in accordance with 60.335 (b) and (c) shall be conducted within the same time frames stated above for NOx.

Emergency Reduction Plans

11. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on December 28, 1998.

(b) If the ERP is disapproved by IDEM, OAQ and OES, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAQ and OES shall supply such a plan.

(c) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(d) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(e) Upon direct notification by IDEM, OAQ and OES that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

Annual Emission Reporting

12. Pursuant to IAPCB Regulation 2-6 (Annual emission statement rule) and 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the facility. This statement must be received by April 15 of each year and must comply with the minimum requirements specified in IAPCB Regulation 2-6-4 (Annual emission statement rule) and 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management		**Office of Environmental Services**
Office of Air Quality,		**Air Quality Management Section,**
Compliance Branch,		**Compliance Data Group**
100 North Senate Avenue, P.O. Box 6015		**2700 South Belmont Avenue**
Indianapolis, Indiana 46206-6015	**and**	**Indianapolis, Indiana 46221-2097**

The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30.

13. Opacity

Pursuant to 326 IAC 5-1-2 **(**Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%); any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

Particulate Matter Limitation

14. Pursuant to 326 IAC 6-1-2(a), particulate matter (PM) emissions from the turbine shall be limited to 0.03 grain/dry standard cubic foot.

Compliance with 326 IAC 2-2 PSD NOx (restraining pollutant) emission limit (Condition 9(a)) will ensure this source stays in compliance with 326 IAC 6-1-2(a).

Fugitive Dust Emissions

15. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of OES or IDEM [326 IAC 6-4-5(c)].

Compliance and Reporting Requirements

16. A log of information necessary to document compliance with operation permit condition no. 9 shall be maintained. These records shall be kept for at least the past 5 years period and made available upon request to the Office of Air Quality (OAQ) and OES.

(a) Pursuant to 326 IAC 2-1, the tons of NOx emissions shall be reported on a monthly basis and twelve month rolling basis.

(b) A quarterly summary, if required by the specific conditions, shall be submitted to:

Indiana Department of Environmental Management		**Office of Environmental Services**
Office of Air Quality		**Air Quality Management Section**
Compliance Data Section		**Compliance Data Group**
100 North Senate Avenue, P.O. Box 6015		**2700 South Belmont Avenue**
Indianapolis, Indiana 46206-6015	**and**	**Indianapolis, Indiana 46221-2097**

within 30 days after the end of the quarter being reported in the format attached.

(c) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:

(i) Delivered by U.S. mail and postmarked on or before the date it is due; or

(ii) Delivered by any other method if it is received and stamped by IDEM, OAQ and OES on or before the date it is due.

(d) All instances of deviations from any requirements of this permit must be clearly identified in such reports.

(e) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.

(f) The first report shall cover the period commencing with the postmarked submission date of the Affidavit of Construction.

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____,I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____ .
(Company Name)

4.I hereby certify that **the Indianapolis Power and Light Company (Harding Street Station)** has constructed the **Gas Turbine Emission Unit GT6** in conformity with the requirements and intent of the construction permit application received by the Office of Environmental Services on December 3, 1998 and as permitted pursuant to the **Minor Permit Modification 097-14666-00033,** issued on _____

5. Additional operations/facilities were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit. (Delete this statement if i does not apply).

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

_____
Signature

_____
Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 19 _____ .

My Commission expires: _____

_____
Signature

_____
Name (typed or printed)

City of Indianapolis
Office of Environmental Services
Compliance data group
2700 S. Belmont Ave.
Indianapolis, Indiana 46221-2097
Phone 317/327-2234, Fax: 317/327- 2274

IDEM
Office of Air Quality
Compliance Branch
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674; Fax: 317-233-5967

Malfunction / Excess Emissions Report

Company Name: **Indianapolis Power & Light Company, Harding Street Station**

Location: **3700 South Harding Street, Indianapolis, IN 46217**

Permit No.: SMT 097-14666-00033 Source/Facility: **One (1) General Electric Gas Turbine Engine EU ID GT6, rated at 152.64 MW**

Control/Device Which Malfunctioned:
Affected Facility:
Date of Malfunction:
Start Time of Malfunction:
Duration Time of Out of Service: Pollutant/s Emitted During Malfunction: PM, PM10, SO_2, VOC, Other: Estimate of Amount of Pollutant Emitted During the Malfunction (include how estimate was determined):
Measures Taken to Minimize Shutdown Time:
Reasons Why Facility Cannot be Shutdown During Repairs:
Interim Control Measures:
Measures Taken to Correct Malfunction:
Malfunction Reported By: Title: Signature:
Date: Time:

The filing of such information is mandated by Federal, State, and Local Air Pollution Legislation. Violation of this mandate through omission or false information may be subject to penalty.

I hereby certify that the information contained in this notification is complete and accurate to the best of my knowledge.

Submitted by:
_____Title/Position:_____
(Print)
Signature:_____Date:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES
AIR QUALITY MANAGEMENT SECTION
DATA COMPLIANCE

Quarterly Report

NOx Emissions, Sulfur Content

Source Name:	Indianapolis Power and Light Company, (Harding Street Station)
Source Address:	3700 South Harding Street, Indianapolis, IN 46217
Mailing Address:	3700 South Harding Street, Indianapolis, IN 46217
Permit:	097-14666-00033
Facility:	Emission Unit ID GT6, Gas Turbine GT6
Parameter:	NOx
Limit:	**40 tons per year on a 12 month rolling basis** **Weight %S < 0.8 (natural gas).**

Quarter: _____ Year: _____

Parameter	Month1	Month2	Month 3
Quantity of natural gas consumed this month, MMdscf			
Monthly weighted average percent sulfur in natural gas			
Monthly average NOx emission, ton:			
Rolling twelve month NOx emission, ton			

Submitted by: _____
Title/Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality
and
Indianapolis Office of Environmental Services

Technical Support Document (TSD) for a Minor Permit Modification

Source Background and Description

Source Name:	**Indianapolis Power and Light Company**
	Harding Street Station
Source Location:	**3700 South Harding Street, Indianapolis, Indiana 46217**
County:	**Marion**
SIC Code:	**4911**
Permit	**097-14666-00033**
Permit Reviewer:	**B. Gorlin**

The Office of Environmental Services (OES) has reviewed a Minor Source Modification application from the Indianapolis Power and Light Company relating to the construction and operation of the following equipment at the Harding Street Station for electrical power generation under a Standard Industrial Classification (SIC) Code of 4911:

Substitution of One(1) permitted General Electric Gas Turbine Engine Model 7121 EA identified as Emission Unit ID GT6, rated at 95.7 MW, burning distillate oil No.2 and/or natural gas with a design heat input capacity rated at 1,041 Million Btu per hour (Natural Gas) and 1,039 Million Btu per hour (Distillate Oil), with the General Electric Gas Turbine Model number PG7241, burning only Natural Gas, rated at 152.64 MW, with a design heat input capacity rated at 1,660 MMBTU per hour, Stack ID GT-6. NOx emissions will be controlled by Dry low NOx burners.

The proposed Gas Turbine will be operated as a simple cycle machine.

No other technological equipment will be added or changed.

Stack Summary

Stack ID	Operation	Control Device	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Flow Rate (dscfm)	Temperature (^{0}F)
GT-6	Natural Gas fired Combustion Turbine	Dry Low NOx burners	66	8'8" x 17'4"	1,580,000	512,550	1055

History

On August 17, 1999, IPL Harding Street Station (previously Elmer W. Stout Generating Station) was issued the Significant Source Modification 097-10952-00033 for the new Gas Turbine GT6 construction and operation.

The permitted Gas Turbine GT6, Stack GT-6, Engine Model 7121 EA, rated at 95.7 MW, distillate oil No.2 and/or natural gas-fired, NOx emissions was to be controlled by Quiet Combustor technology with water injection.

The permitted turbine has not been constructed yet.

On June 25, 2001, the source submitted a Minor Permit Modification application for substitution of the permitted turbine GT6 with the new General Electric Gas Turbine Model number PG7241, burning only Natural Gas, rated at 152.64 MW, with a design heat input capacity rated at 1,660 MMBTU per hour, Stack ID GT-6. NOx emissions will be controlled by Dry low NOx burners.

Recommendation

The staff recommends to the Administrator that the Minor Permit Modification be approved. This recommendation is based on the following facts and conditions:

A complete application for the purposes of this review was received on June 25, 2001.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheet, one page) for detailed calculations.

Potential to Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, IDEM or OES.

Pollutant	Permitted Turbine, mod. 7121 EA, limited emissions (ton/yr)	New Turbine, mod. PG7241 unlimited PTE (ton/yr)
Particulate Matter (PM)	2.2	48.0
Particulate Matter (PM10)	2.2	13.8
Sulfur Dioxide (SO_2)	11.6	5.5
Volatile Organic Compounds (VOC)	1.5	15.3
Carbon Monoxide (CO)	20	109.1
Nitrogen Oxides (NO_x)	**<40**	**719.8**
Single Hazardous Air Pollutant (HAP)	5.3	5.2
Combination of HAPs	5.3	5.2

Potential Emissions for the new turbine were calculated using AP-42 Emission Factors.

Justification for Modification

The Significant Source Modification is being modified through a Part 70 Minor Permit Modification pursuant to 326 IAC 2-7-12(b), because it substitutes a permitted turbine by a new one, does not violate any applicable requirement, does not involve significant changes to existing monitoring, reporting, or record keeping requirements, and will maintain the existing PSD minor modification status.

County Attainment Status

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Marion County has been classified as attainment or unclassifiable for PM10, SO_2, and CO.. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM10	**>100**
SO_2	**>100**
VOC	**>100**
CO	**>100**
NO_x	**>100**

The existing source emissions have been estimated based on allowable emissions in the existing permits issued to IPL Harding Street Station (formerly - Elmer W. Stout Generating Station).

This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.

Emission Calculations

See Appendix A (one page) of this document for detailed emissions calculations.

Proposed Modification

Limited emissions from the proposed new turbine (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity and/or as limited):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	Lead (ton/yr)	CO (ton/yr)	SO_2 (ton/yr)	NO_x (ton/yr)	VOC (ton/yr)
Permitted Turbine	2.2	2.2	0.1	20.0	11.6	<40	1.5
Proposed Modification	2.667	0.768	0.0	6.061	1.374	**<40**	0.848
PSD and Emission Offset Rules Significant Levels	**25**	**15**	**0.6**	**100**	**40**	**40**	**40**

NOx PTE of the proposed modification will be limited to less than PSD significant level of 40 tons per year. NO_X is the constraining pollutant. Therefore, limiting NO_X emissions to below 40 tons per year would, effectively, limit all the regulated pollutants to less than the major modification thresholds.

This modification to an existing major source is not major because the limited emissions increases are less than PSD and Emissions Offsets significant levels. Therefore, pursuant to 326 IAC 2-2 (40 CFR 52.21) and 326 IAC 2-3, the PSD and Emissions Offset requirements, respectively, shall not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 Operating Permit (T097-6566-00033) on September 13, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

40 CFR 60, Subpart GG (Stationary Gas Turbines):

The source will be subject to this rule since the heat input capacity of the proposed Gas Turbine GT6 is greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.

The Operation Condition 8 was changed related to only Natural Gas to burned in the proposed Gas Turbine GT6 (no fuel oil): the paragraph “For distilled oil:” was deleted.

The proposed new turbine Emission Unit GT6 will not use water injection but low NOx burners design. Therefore, the CFR 40.60.334(a) requiring continuous monitoring of fuel consumption and water-to-fuel ratio will not be applicable. CFR 40.60.334(b) does not require continuous monitoring of nitrogen content of the fuel. According to EPA Determination of September 14, 2000 (Control # 0000128), the EPA waives the requirement to monitor the nitrogen content of pipeline natural gas which contains no fuel-bound nitrogen.

The following changes were made in the Operation Condition 8 (Condition 9 in the original permit):

<u>40 CFR 60, Subpart GG (Stationary Gas Turbines):</u>

8. The Gas Turbine GT6 is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.330, (Subpart GG)), since the heat input capacity is greater than 10.7 gigajoules per hour, based on the lower heating value of the fuel fired.

   (a) Pursuant to 326 IAC 12-1 and 40 CFR 60, Subpart GG (Stationary Gas Turbines), the Permittee shall:

      (1) limit nitrogen oxides emissions, as required by 40 CFR 60.332, to:

$$STD = 0.0075 \frac{(14.4)}{Y} + F,$$

where STD = allowable $_{NOX}$ emissions (percent by volume at 15 percent oxygen on a dry basis).

Y = manufacturer’s rated heat rate at manufacturer’s rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peck load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NOx emission allowance for fuel-bound nitrogen as defined in paragraph (a)(3) of 40 CFR 60.332.

(2) limit sulfur dioxide emissions, as required by 40 CFR 60.333, to 0.015 percent by volume at 15 percent oxygen on a dry basis, or use natural gas fuel with a sulfur content less than or equal to 0.8 percent by weight;

~~(3) install a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine, as required by 40 CFR 60.334(a);~~

(b) Pursuant to 40 CFR Part 60 Subpart GG and pursuant to the custom schedule for natural gas firing allowed by 40 CFR 60.334(b) and approved by IDEM on December 28, 1994 for Gas Turbines GT4 and GT5 at this facility, the Permittee shall monitor the sulfur content ~~and nitrogen content~~ of the fuel being fired in Emission Unit ID GT6, according to 40 CFR 60.335. The frequency of determination of these values shall be as follows:

~~(1) For distillate oil:~~

~~(A) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.~~

~~(B) If the turbine is supplied its fuel without the intermediate bulk storage, the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with the monitoring requirements.~~

~~(2) For natural gas:~~

~~(A)~~(1) The sulfur and nitrogen content of natural gas shall be obtained and analyzed within thirty (30) days of each one (1) billion standard cubic feet landmark consumption period of natural gas firing is completed. Reporting of the results, calculated as a percent sulfur and nitrogen by weight, shall be done quarterly for the quarter in which the analysis was performed. Sampling and analysis of the natural gas shall be performed according to 40 CFR 60.335(d).

~~(B)~~(2) The sulfur content ~~and nitrogen content~~ information obtained from this monitoring shall be used to document compliance with limits stated in conditions ~~9~~ 8(a)(1) and ~~9~~ 8(a) (2).

(c) report periods of excess emissions, as required by 40 CFR 60.334(c).

40 CFR Part 72-80 (Acid Rain Program)

Pursuant to 326 IAC 21 (Acid Deposition Control), the Permittee shall apply for the Phase II Acid Rain Permit in accordance with 40 CFR 72 and 40 CFR 75 through 40 CFR 78 prior to the proposed equipment operation start up.

State Rule Applicability

326 IAC 1-7 (Stack Height)
326 IAC 1-6-3 (Preventive Maintenance):

The source is subject to these rules. No changes were made in the permit Construction Condition 7 (Stack Height) and Operation Condition 3 (Preventive Maintenance Plan).

326 IAC 2-4.1-1 (New Source Toxics Rule)

Formaldehyde potential emissions from the proposed Gas Turbine are 5.2 ton/yr. Limited formaldehyde emissions are 0.287 ton/yr.

No HAPs will be emitted at 10 ton/yr of individual HAP or 25 ton/yr of combined HAP emissions. Therefore, this New Source Toxics Rule (326 IAC 2-1-3.4), will not apply.

326 IAC 2-2 (Prevention of Significant Deterioration):

The following limitations will ensure this source modification stays below significant modification levels of criteria pollutants, therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, shall not apply.

(a) The criteria pollutants emissions shall be limited to less than PSD significant levels as follows: PM/PM10 emissions (filterable and condensable combined) - to less than 15 tons per year, Nitrogen Oxides (NOx) - to less than 40 tons per year; Sulfur Dioxide (SO2) - to less than 40 tons per year; Carbon Monoxide (CO) - to less than 100 tons per year, Lead - to less than 0.6 tons per year.

(b) NO_X is the constraining pollutant. Therefore, limiting the NOx emissions to below 40 tons per year would, effectively, limit all other regulated pollutants to less than the major modification thresholds, such that Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

(c) The source shall be required to install a continuous emissions monitoring system in accordance with 326 IAC 3-5, to demonstrate compliance with the above mentioned NOx limit. This requirement will replace the fuel consumption limit in the existing permit.

(d) If the Permittee ever elects to relax the potential to emit limitation such that the PSD rules apply, the Permittee would be required, as a minimum, to install a control which would meet the value considered BACT at this time or install add-on controls which would meet the BACT value. For example, the Permittee is installing turbines that have been guaranteed by the vendor to meet NOx emission rate of 25 ppm, but permits for similar units have recently been permitted with BACT value set at 9 ppm. Therefore, at a minimum, the Permittee would be required to meet the most current BACT value for similar sources as determined on a case-by-case basis.

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons/yr of NOx, SO_2, and CO. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year).

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-1-2 (Particulate Emissions Limitations, Section 2(a), General Sources)

Since the source is located in Marion County emissions from the GT6 turbine shall be limited to 0.03 grain per dry standard cubic foot.

PM potential emission is 0.002 grain per dry standard cubic foot, therefore, the source will be in compliance with this rule.

No other 326 IAC 6 rules apply.

326 IAC 7-1 (Sulfur Dioxide Emission Limitations)

This modification is not subject to this rule because its potential to emit Sulfur Dioxide is less than 25 tons per year or 10 pounds per hour.

326 8-1-6 (General Provisions relating to VOC rules)

326 IAC 8-1-6 does not apply to this Gas Turbine GT6 because the potential VOC emissions are less than 25 tons per year.

No other 326 IAC 8 rules apply.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics in the Construction Permit Application Form GSD-08.

(a) This Gas Turbine GT6 will not emit levels of air toxics greater than those that constitute significant major source modification applicability according to Section 112 of the 1990 Clean Air Act Amendments.

Conclusion

The modification of this Gas Turbine GT6 shall be subject to the conditions of the attached proposed Minor Permit Modification No. **097-14666-00033**.

This Minor Permit Modification No. 097-14666-00033 will supersede the Significant Source Modification 097-10952-00033 issued on August 17, 1999.